CALIFORNIA
OCCUPATIONAL GUIDES

EDD Employment Development Department
State of California

PHOTOFINISHING WORKERS

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INTEREST AREA
REALISTIC

WHAT DOES A PHOTOFINISHING WORKER DO?

A photograph captures a scene by means of a chemical change in film. Exposed film contains only a potential image; it must be chemically processed to produce a photograph. Photofinishing Workers fall under two main categories, Photographic Process Workers and Photographic Processing Machine Operators.

PHOTOGRAPHIC PROCESS WORKERS, often called darkroom workers or photo developers, measure, mix, and apply chemicals necessary to "fix" a permanent image on film. Since this image is a negative or reverse one, they must process it again to produce a print with normal colors and tones.

When film arrives at the lab, workers check it in, mark it with instructions, and send it to the darkroom for initial processing. There, it is removed from its cartridge, and placed in a series of developing and fixing solutions. Once the film has dried, Photographic Process Workers cut the negatives, put them in order, and place them in an enlarger to produce positive prints, each reflecting the original scene photographed. Prints, once processed, are immersed in another series of chemical solutions to bring out the image and make it permanent.

In addition to their film processing duties, Photographic Process Workers may sort film, maintain records, check quality, splice broken or separated film, and package prints and negatives. In smaller photographic establishments, they may develop film and prints, and set up lights, cameras, and take pictures.

The four main occupations comprising the broad, general occupation of Photographic Process Workers are:

- Photographic Retouchers and Restorers
- Photographic Reproduction Technicians
- Photographic Hand Developers
- Film Laboratory Technicians

Photographic Retouchers and Restorers perform the following tasks:

- Apply paint to retouch or enhance negative or photograph, using airbrush, pen, artist's brush, cotton swab, or gloved finger.
- Shade negative or photograph with pencil to smooth facial contours, conceal blemishes, stray hairs, or wrinkles, and soften highlights.
- Rub eraser or cloth over photograph to reduce gloss, remove debris, or prepare specified areas of illustration for highlighting.

- Paint negative with retouching medium, to ensure retouching pencil will mark surface of negative.
- Ink borders or lettering on illustration, using pen, brush, or drafting instruments.
- Wipe excess color from portrait to produce specified shade, using cotton swab.
- Examine drawing, negative, or photographic print to determine coloring, shading, accenting, and changes required to retouch or restore.
- Cut out masking template, using shears, and position templates on picture to mask selected areas.
- Mix ink or paint solutions, according to color specifications, color chart, and consistency desired.
- Trim edges of print to enhance appearance, using scissors or paper cutter.

Photographic Reproduction Technicians perform the following tasks:

- Start exposure to duplicate original, photograph, or negative.
- Estimate exposure time, according to size of lens aperture, grade of sensitized paper, and intensity of light.
- Place filter over lens to make color separation when copying color work.
- Set automatic timer, lens opening, and carriage of printer to specified focus and exposure time.
- Reprint original to enlarge, or in sections to be pieced together.
- Examine negative for contrast to determine grade of sensitized paper required for print.
- Select lens assembly according to size and type of negative or photograph to be printed.
- Measure material to be copied and compute percentage of enlargement or reproduction necessary, using rule, chart, or percentage scale.
- Mount original photograph, negative, or other printed material in holder or vacuum frame beneath light.
- Mount camera on tripod or stand, and load prescribed type and size film in camera.
- Read work order to determine required processes, techniques, materials, and equipment.
- Place sensitized paper in frame of projection printer, photostat, or other reproduction machine.
- Rinse developed print in water and place in heated drying cabinet.
- Retouch defects in print, using chemicals, inks, brushes, and pens.
- Roll exposed section of sensitized paper into developer tank inside machine.
- Develop exposed paper or material.
- Examine developed print for defects, such as broken lines, spots, and blurs.
- Mix developing and processing solutions, for use in developing, processing, and rinsing prints.

Photographic Hand Developers perform the following tasks:

- Immerse exposed film or photographic paper in developer solution, to bring out latent image.
- Immerse negative paper, film, or print in stop bath to arrest developer action.
- Immerse negative paper, film, or print in hyposolution to fix image.
- Immerse negative paper, film, or print in water to remove chemicals.
- Dry prints or negatives, using sponge, squeegee, or mechanical air dryer.
- Mix developing and fixing solutions, following formula.
- Produce color photographs, negatives, and slides, using color reproduction processes.

Film Laboratory Technicians perform the following tasks:

- Compute amount of light intensity needed to compensate for density of film, using standardized formulas.
- Expose film strip to progressively timed lights to compare effects of various exposure times.
- Examine developed film strip to determine optimal exposure time and light intensity required for printing.
- Read gauges on sensitometer to determine film's sensitivity to light.

- Thread film strip through densitometer and expose film to light to determine density of film.
- Thread film strip through sensitometer and expose film to light.
- Record test data and route film to film developer and film printer for further processing.

PHOTOGRAPHIC PROCESSING MACHINE OPERATORS operate or tend photographic processing machines, such as motion picture film printing machines, photographic printing machines, film developing machines, and mounting presses according to job specifications. In recent years more and more photographic labs have automated the film printing process. An increasing number of photofinishing functions are now being carried on "in the light." Larger photographic labs now employ more computer-controlled color-photograph printer operators.

Photographic Processing Machine Operators perform the following tasks:

- Load circuit boards, racks or rolls of film, negatives, or printing paper into processing or printing machines.
- Set and adjust machine controls, according to specifications, type of operation, and material requirements.
- Start and operate machines to prepare circuit boards and expose, develop, etch, fix, wash, dry, and print film or plates.
- Fill tanks of processing machines with solutions, such as developer, dyes, stop-baths, fixers, bleaches, and washes.
- Monitor equipment operation to detect malfunctions.
- Measure and mix chemicals according to formula to prepare solutions for processing.
- Remove completed work from equipment and examine circuit boards, plates, film, and prints for conformance to quality standards.
- Read work orders and examine negatives and film to determine machine settings and processing requirements.
- Place film in labeled containers or number film for identification, using numbering machine or by hand.
- Discard or clean and repair defective film or circuit patterns on photographic plates, using cleaning solutions and hand tools.

WHAT SKILLS ARE IMPORTANT?

Important skills, knowledge, and abilities for Photographic Process Workers include:

- Mathematics – Using mathematics to solve problems.
- Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.
- Operation and Control – Controlling operations of equipment or systems.
- Equipment Selection – Determining the kind of tools and equipment needed to do a job.
- Chemistry – Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
- Arm-Hand Steadiness – The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Visual Color Discrimination – The ability to match or detect differences between colors, including shades of color and brightness.
- Finger Dexterity – The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Visualization – The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Near Vision – The ability to see details at close range (within a few feet of the observer).
- Problem Sensitivity – The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Night Vision – The ability to see under low light conditions.

Important skills, knowledge, and abilities for Photographic Processing Machine Operators include:

- Operation Monitoring – Watching gauges, dials, or other indicators to make sure a machine is working properly.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Mathematics – Using mathematics to solve problems.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Mechanical – Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- Chemistry – Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
- Computers and Electronics – Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
- Near Vision – The ability to see details at close range (within a few feet of the observer).
- Problem Sensitivity – The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Information Ordering – The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Manual Dexterity – The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.

WHAT'S THE WORK ENVIRONMENT?

Film and machinery can be damaged by excesses of temperature, humidity, and dust, and photographic laboratories try to maintain these conditions at safe levels. The odor of chemical solutions may be bothersome, but ventilation is usually good enough to clear the room of annoying odors. Chemicals can be corrosive, so care must be taken when they are used. Aprons are worn to protect clothing.

Exposed film is light sensitive, and great care is taken to process it in complete darkness. Photofinishing Workers must rely on their sense of touch and on audible timers in order to process film correctly. Printing and film drying can be done under partially or fully-lighted conditions.

Many Photofinishing Workers are employed by large processing companies; others work in processing labs operated by portrait and commercial studios, manufacturers, newspapers, and others.

Union Membership

There is little or no unionization of these occupations. Photofinishing Workers can join the Photo Marketing Association International.

WHAT'S THE CALIFORNIA JOB OUTLOOK?

The following information is from the occupational projections produced by the Employment Development Department (EDD) Labor Market Information Division (LMID):

Photographic Process Workers

Estimated number of workers in 2002:	3,000
Estimated number of workers in 2012:	2,800
Projected Growth 2002-2012:	-6.7%
Est. openings due to separations by 2012:	700

These figures do not include self-employment.

Photographic Processing Machine Operators

Estimated number of workers in 2002:	5,300
Estimated number of workers in 2012:	5,500
Projected Growth 2002-2012:	3.8%
Est. openings due to separations by 2012:	1,300

These figures do not include self-employment.

The two occupations which make up the general occupation of Photo Processing Workers will grow at a combined rate slower than the average compared with all occupations in California. However, Photographic Process Workers will suffer a decline of 6.7 percent during the projections period while Photographic Processing Machine Operators will enjoy a growth rate of 3.8 percent.

Trends

The speed of photographic processing machines and the general high quality of the photographic prints they produce has led to a dwindling in the number of Photographic Process Workers. Also contributing to the decline in the numbers of workers employed in this occupation, is the more and more prevalent phenomenon of digital photography which enables ordinary recreational photographers to share photos via the internet and e-mail without the development of film of any kind. Current technology also allows the transfer of images from negative to computer "floppies" or compact disks without the need of a photographic print.

WHAT DOES THE JOB PAY?

California Earnings

The following information is from the Occupational Employment Statistics Survey of Employers by EDD/LMID:

Photographic Process Workers 2005 Wages

Hourly wages range from	$9.60	to	$17.69
Average hourly wage	$14.15		
Average annual wage	$29,413		

These figures do not include self-employment

Photographic Processing Machine Operators 2005 Wages

Hourly wages range from	$9.03	to	$15.27
Average hourly wage	$13.21		
Average annual wage	$27,477		

These figures do not include self-employment.

Hours

Many of the businesses have day and night shifts due to the interest shown by the public in quick overnight film processing. The normal workweek consists of 40 hours, often including weekends.

Benefits

The larger businesses usually have medical and retirement plans for their workers; however, the smaller businesses do not.

HOW DO I PREPARE FOR THE JOB?

Education and Training

Few employers have educational requirements, but many Workers who have advanced to better jobs are high school graduates who have taken photography, chemistry, and art. Although employers will often provide on-the-job training, familiarity with film developing equipment and photographic printing equipment is helpful.

Community colleges located throughout the State offer photography programs in the development and printing of both black and white and color film.

Licensing and Certification

Licenses or certificates are not required for Photofinishing Workers.

Continuing Education

There are no formal continuing education requirements for Photofinishing Workers.

HOW DO I FIND THE JOB?

Direct application to employers remains one of the most effective job search methods. Most Photofinishing Workers are employed in the photography industry.

Search these **yellow page** headings for listings of private firms:

- Photo Finishing-Retail
- Photo Finishing-Wholesale
- Photo Retouching & Restoration
- Photographers-Aerial
- Photographers-Commercial
- Photographers-Portrait
- Photographic Color Prints
- Photography Schools

The following Internet resources can be helpful to the job search process:

America's Career InfoNet
www.acinet.org

America's Job Bank
www.ajb.dni.us

CalJOBS℠
www.caljobs.ca.gov

Job Search and Resume Writing
www.worksmart.ca.gov/success_tips_menu.html

Local Job Service Offices
www.edd.ca.gov/jsrep/jsloc.htm

Occupational Information Network (O*NET) Online
http://online.onetcenter.org

One-Stop Career Centers List
www.edd.ca.gov/ONE-STOP/pic.htm

For statewide and local projections, wages, employers by county, and other occupational information go to www.labormarketinfo.edd.ca.gov and select *Find an Occupation Profile*.

WHERE CAN THIS JOB LEAD?

Photofinishing Workers can advance to darkroom technicians in two to five years. This may lead to promotions to photographers, supervisors, and managers depending upon abilities, interests, and education.

OTHER SOURCES OF INFORMATION

Photo Marketing Association International
3000 Picture Place
Jackson, MI 49201
(517) 788-8100

Academy of Art University
79 New Montgomery Street
San Francisco, CA 94105
(800) 544-2787
www.academyart.edu

Brooks Institute of Photography
801 Alston Road
Santa Barbara, CA 93108
(888) 304-FILM (3456)
www.brooks.edu/index.asp

RELATED OCCUPATIONAL GUIDES

Photographers	No. 51
Photographic Equipment Technicians	No. 265

OCCUPATIONAL CODE REFERENCES

SOC *(Standard Occupational Classification)*

Photographic Process Workers	51-9131
Photographic Processing Machine Operators	51-9132

O*NET *(Occupational Information Network)*

Photographic Process Workers	51-9131.00
Photographic Retouchers and Restorers	51-9131.01
Photographic Reproduction Technicians	51-9131.02
Photographic Hand Developers	51-9131.03
Film Laboratory Technicians	51-9131.04
Photographic Processing Machine Operators	51-9132.00

OES (*Occupational Employment Statistics*)

Photographic Process Workers	89914
Photographic Processing Machine-Operators and Tenders	92908